

# PATENT ABSTRACTS OF JAPAN

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C08F222/02

(21) Application number : 55-132330 (71) Applicant : NIPPON SHOKUBAI KAGAKU  
KOGYO CO LTD

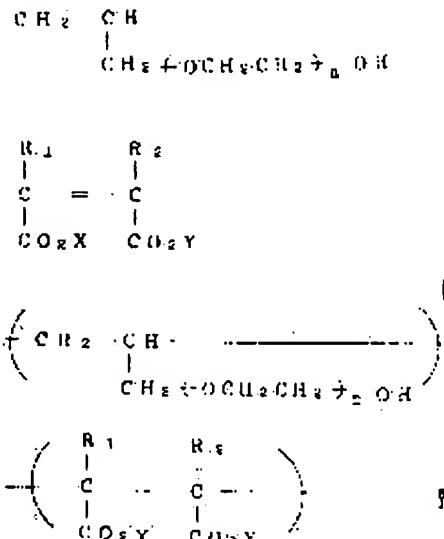
(22) Date of filing : 25.09.1980 (72) Inventor : TSUBAKIMOTO TSUNEO  
HOSOIDO MASAHIRO  
TAWARA HIDEYUKI

## (54) NOVEL COPOLYMER AND ITS PRODUCTION

### (57) Abstract:

**PURPOSE:** To obtain a copolymer having carboxyl groups and comb-shaped side chains of an ethylene oxide adduct and being useful as a pigment dispersant of the like, by copolymerizing polymethylene glycol monoallyl ether with a maleic acid monomer.

**CONSTITUTION:** A copolymer consisting of repeating structural units of formulas III and IV in a mol ratio of (60:40)W(40W60), having carboxyl groups or salts thereof and comb-shaped side chains of an ethylene oxide adduct and being useful as a pigment dispersant, a chelating agent and an emulsifier, is obtained by copolymerizing polyethylene glycol monoallyl ether of formula I, wherein n is 1W100, with a maleic acid monomer of formula II, wherein R<sub>1</sub> and R<sub>2</sub> are each H or methyl, X and Y are each H, a monovalent metal, a bivalent metal, ammonium or an organic amine, e.g., maleic acid or fumaric acid, in a solvent by use of a polymerization initiator and, if necessary, neutralizing the product with an alkaline substance.



### LEGAL STATUS

DERWENT-ACC-NO: 1982-39899E

DERWENT-WEEK: 198220

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TITLE: Copolymer useful as dispersant, chelating agent, scale inhibitor etc. - obtd. from Polyethylene glycol mono:allyl ether and maleic acid type monomer

PATENT-ASSIGNEE: NIPPON SHOKUBAI KAGAKU KOGYO CO LTD [JAPC]

PRIORITY-DATA: 1980JP-0132330 (September 25, 1980)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
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JP 57057706 A	April 7, 1982	N/A
009 N/A		
JP 87025163 B	June 2, 1987	N/A
000 N/A		

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
JP 57057706A	N/A	1980JP-0132330
September 25, 1980		

INT-CL (IPC): C08F216/20, C08F220/28, C08F222/02

ABSTRACTED-PUB-NO: JP 57057706A

BASIC-ABSTRACT:

New copolymer comprises repeating units of formula (I) (where n is 1-100), and repeating units of formula (II) (where R<sub>1</sub>, R<sub>2</sub> are each H or methyl; X and Y are each H, monovalent metal, divalent metal, ammonium gp. or organic amine gp.), with molar ratio of total sum of (I) to total sum of (II) 60:40-40:60.

Mfr. comprises copolymerising polyethylene glycol monoallyl ether of formula (III) with maleic acid type-monomer of formula (IV), using polymerisation

initiator and if necessary, further, neutralising the obtd. copolymer with alkaline substance.

The copolymer shows excellent performance in wide range of uses such as dispersing agent for pigment, chelating agent, scale inhibitor, builder for detergent, high molecular surfactant, emulsifier, cement mixing additive, etc.

TITLE-TERMS: COPOLYMER USEFUL DISPERSE CHELATE AGENT SCALE INHIBIT OBTAIN

POLYETHYLENE GLYCOL MONO ALLYL ETHER MALEIC ACID TYPE MONOMER

ADDL-INDEXING-TERMS:

DETERGENT BUILD SURFACTANT EMULSION CEMENT ADDITIVE

DERWENT-CLASS: A14 A25 A97

CPI-CODES: A04-D; A04-F05; A04-F11; A10-E08A;

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 0013 0037 0226 1040 1279 1588 1592 2002 2014 2066 2122  
2585 2701

2709 3273 3275 1417 1424 1438 1432

Multipunch Codes: 013 02& 028 034 039 075 104 109 116 147 155 157 198  
231 240

27& 28& 31- 336 54- 575 58& 583 589 59& 603 623 624 626 678 679 688  
691 720 013

02& 028 034 039 075 104 108 109 147 155 157 198 231 240 27& 31- 336  
54- 575 58&

583 589 59& 603 623 624 626 678 679 688 691 720 013 02& 028 034 039  
075 104 107

109 147 155 157 198 231 240 27& 31- 336 54- 575 58& 583 589 59& 603  
623 624 626

678 679 688 691 720 013 02& 028 034 039 075 104 105 109 147 155 157  
198 231 240

27& 31- 336 54- 575 58& 583 589 59& 603 623 624 626 678 679 688 691  
720